

**REMARKS**

Claims 10, 12, 13 and 19-24 are pending in this application. By this Amendment, claim 10 is amended. Support for the amendment to claim 10 is found, for example, in at least paragraph [0052] of the specification. Claims 19-24 are added. The added claims introduce no new matter. Claims 1-3 and 16-18 are canceled without prejudice to, or disclaimer of, the subject matter recited in that claim. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action, in paragraph 2, asserts a Restriction Requirement between Group I, claims 1-3, 10, 12 and 13, directed to an abrasive sol, and Group II, claims 16-18, drawn to a method of polishing a substrate. Applicants elect Group I, claims 1-3, 10, 12 and 13. Added claims 19-24 are directed to an abrasive, as is recited in the subject matter of the elected claims, and should properly be examined together with the claims of Group I.

The Office Action, in paragraph 12, rejects claims 1-3, 10, 12 and 13 under 35 U.S.C. §103(a) over U.S. Patent No. 4,769,073 to Tastu et al. (hereinafter "Tastu") in view of European Patent No. 0 444 470 to Ashley et al. (hereinafter "Ashley") and further in view of U.S. Patent No. 6,171,572 to Aozasa. This rejection is respectfully traversed.

The Office Action concedes that Tastu does not teach a particle size of 2 to 200 m<sup>2</sup>/g, as positively recited in claim 10. The Office Action rather relies on Ashley to overcome this deficiency of Tastu. Additionally, the Office Action concedes that any permissible combination of Tastu and Ashley fails to teach a sol wherein the particles have a particle size of 50 to 150 nm, as positively recited in claim 10. The Office Action relies on Aozasa as allegedly overcoming this deficiency in the combination of Tastu and Ashley. Tastu, Ashley and Aozasa, in any permissible combination, do not teach, nor can they reasonably be considered to have suggested, an abrasive for polishing a substrate comprising silica in an amount of 50 wt% or more. Similarly, claims 19 and 22 are drawn to polishing materials

containing silica in an amount of 50 wt% or more, such as, for example, rock crystal, quartz glass for a photomask or a semiconductor device.

As acknowledged in the Office Action, Tastu fails to disclose all the features of claim 10. Further, Tastu teaches a method of polishing plastic ophthalmic lenses and sheet materials. Accordingly, Tastu's polishing materials are used for polishing comparatively soft materials, and therefore would be unsuitable for polishing a substrate comprising silica in the amount of 50 wt% or more as is positively recited in the dependent claims. A skilled artisan would not look to Tastu with a reasonable expectation of success for solving the problem of polishing silica based material substrates.

Applicants submit that the Office Action fails to make a *prima facie* case of obviousness why it would have been obvious to combine (1) Tastu with Ashley to arrive at particles with a specific surface area of 2 to 200 m<sup>2</sup>/g and (2) Tastu with Aozasa to arrive at particles with a particle size of 50 to 150 nm, as is positively recited in independent claims 10, 19 and 22.

It is not as easy a matter as the Office Action attempts to make it to combine the above-identified references in an attempt to render obvious the subject matter of the pending claims because: (1) Aozasa and Ashley may not be considered analogous art to Tastu in its application to the subject matter of the pending claims; (2) the Office Action fails in its attempt to indicate why, simply because there may be components of the subject matter which can be shown in various unrelated references, one of ordinary skill in the art would have been motivated to combine these references in the manner suggested by the Office; and (3) the mere conclusory statement that Applicants would have sought ease of production on an industrial scale has motivation to make the asserted combination is not enough to meet the standard for such a showing.

Aozasa and Ashley are not analogous art to Tastu because both references teach catalysts for purifying exhaust gas. Nowhere do these prior art references teach or suggest that the materials may be suitable for polishing plastered silica based materials. The Office Action merely relies on these two references for allegedly teaching a certain particle size or specific surface area. However, a skilled artisan would not look to Aozasa and/or Ashley with a reasonable expectation of success to modify the plastic polishing materials of Tastu to obtain a polishing material for silica based materials. With reference to MPEP §2141.01(a) the standard for finding a reference to be analogous prior art is that "[I]n order to rely on a reference as a basis for rejection of an Applicant's invention, the reference must either be in the field of Applicant's endeavor, or if not, then be reasonably pertinent to the particular problem with which the invention was concerned." *In re Oetiker*, 977 F.2d. 1443, 1446 (Fed. Cir. 1992). The above-cited MPEP section goes on to quote other Federal Circuit precedent that found that a reference is reasonably pertinent if, even though it may be in a different field from that of the inventors endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. It is unreasonable to conclude that one of ordinary skill in the art given an issue regarding polishing silica based substrates would have had a reference to components in engine catalyst logically commended to his attention in considering the problem to which the subject of the pending claims is addressed. To conclude that when confronted with the problem of polishing silica based substrates, one might have turned to either of Ashley or Aozasa is a conclusion that only can be arrived at through the improper application hindsight reasoning based on the roadmap provided by Applicants' disclosure.

Further, as noted above, the mere conclusory statements setting forth some motivation to combine these references, i.e., to achieve ease production on an industrial scale, is not enough to prove that there is a teaching, suggestion or motivation in the prior art to combine

these references in the manner suggested by the Office Action. The Federal Circuit recently reaffirmed its prior holdings asserting that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rationale understanding to support the legal conclusion of obviousness." *In re Con*, 441 F.3d 977 (Fed. Cir. 2006) (quoting *In re Lee* 277 F.3d 1338, 1343-1346 (Fed. Cir. 2002), and *In re Rouffet*, 149 F.3d 1350, 1355-1359 (Fed. Cir. 1998)). This standard is not met here as no articulated reasoning with some rationale underpending is provided for making the asserted combination. There is nothing for example in Tastu, Ashley and Aozasa that can be relied upon to support such a conclusion, nor has some objective evidence otherwise in the prior art been shown.

MPEP §2143.01 instructs that "[t]he mere fact that references can be combined or modified does not render the result in combination obvious unless the prior art also suggests the desirability of the combination." At least for the reasons that the asserted secondary references are not analogous art to task to as well as for the fact that some appropriate motivation has not been shown to define the references in the manner suggested by the Office Action, the Office Action fails to carry its burden in proving a *prima facie* case for obviousness of the subject matter of any of the pending claims over any combination of the asserted prior art references.

For at least the above reasons, the combination of all of the features positively recited in independent claim 10 cannot reasonably be considered to have been suggested by any permissible combination of the applied prior art references. Further, claims 12 and 13 would also not have been suggested by any permissible combination of Tastu, Ashley and Aozasa for at least the respective dependence of these claims directly or indirectly on an allowable independent claim, as well as for the separately patentable subject matter that each of these claims recites.

Claims 19-24 recite similar features and as such are allowable.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 10, 12, 13 and 19-24 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:KDB:GMH/hs

Attachment:

Petition for Extension of Time

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